

What is Claimed is:

1. A method for forming a coated film of a thermoplastic material on a region of at least a part of an inner peripheral surface of a cylinder so as to extend in a whole circumferential direction thereof, comprising the steps of:

providing a paste applying machine for discharging a molten paste of said thermoplastic material kept molten by heating from a distal end of a nozzle;

arranging said nozzle in a space in said cylinder so that said molten paste is discharged toward the inner peripheral surface of said cylinder;

moving said nozzle along a rotational center of said cylinder within a range opposite to said region while rotating said cylinder in said circumferential direction and discharging said molten paste from said nozzle; and

spreading said molten paste applied to said inner peripheral surface by means of centrifugal force acting on said cylinder being rotated, to thereby wholly cover said region with said molten paste.

2. A method as defined in claim 1, wherein viscosity of said molten paste, a rotational speed of said cylinder and a speed of movement of said nozzle are determined so as to prevent said molten paste discharged onto said inner peripheral surface from said nozzle from being scattered to a region other than said region.

3. A method as defined in claim 2, wherein said nozzle has a discharge port formed into a substantially circle shape;

and

said molten paste is discharged from said nozzle under a pressure of 1 kg/cm² or less under the conditions that said viscosity of said molten paste is set to be within a range of between 50cp and 100cp, said rotational speed of said cylinder is set to be within a range of between 2700 rpm and 3300 rpm, said speed of movement of said nozzle is set to be within a range of between 0.055 m/s and 0.08 m/s and a distance between said distal end of said nozzle and said inner peripheral surface of said cylinder is set to be within a range of between 3mm and 7mm.

4. An apparatus for forming a coated film of a thermoplastic material on a region of at least a part of an inner peripheral surface of a cylinder so as to extend in a whole circumferential direction thereof, comprising:

a cylinder drive mechanism for rotating said cylinder in said circumferential direction about a central line of said cylinder;

a paste applying machine for discharging a molten paste of said thermoplastic material kept molten by heating from a distal end of a nozzle; and

a timing controller;

said paste applying machine including a gun head provided with said nozzle, a gun head moving mechanism for moving said gun head and a molten paste feed equipment for feeding said molten paste to said gun head;

said timing controller being constructed in such a manner

that operation timing of each of said cylinder drive mechanism, said gun head moving mechanism, and said molten paste feed equipment is determined so as to permit said cylinder to be rotated in said circumferential direction while keeping said nozzle arranged in a space in said cylinder and so as to permit said nozzle to be moved along a rotational center of said cylinder being rotated and within a range opposite to said region while keeping said molten paste discharged from said nozzle.

5. An apparatus as defined in claim 4, wherein said molten paste feed equipment includes:

a molten paste feed unit which includes a storage tank in which said molten paste is stored and feeds said molten paste to said gun head under a predetermined pressure so as to permit said molten paste to be discharged from said nozzle under said predetermined pressure; and

a molten paste replenishing unit for automatically replenishing said molten paste to said storage tank when the amount of said molten paste in said storage tank of said molten paste feed unit is reduced to a level lower than a predetermined level.

6. An apparatus as defined in claim 5, wherein said molten paste feed unit is constructed so as to keep a pressure in said storage tank at a constant level, so that the pressure in said storage tank permits said molten paste to be fed to said gun head;

said molten paste in said molten paste replenishing unit

is fed to said storage tank under a pressure which is set to be higher than said pressure in said storage tank;

said storage tank of said molten paste feed unit is provided therein with a level sensor for detecting a level of said molten paste therein; and

said storage tank has a molten paste replenishing port provided with a control on/off valve which is kept open during a period of time for which a control command is inputted thereto and kept closed during the remaining period of time;

said control on/off valve of said molten paste feed unit outputting said control command during a period of time defined between after said level sensor detects that a level of said molten paste in said storage tank is at a first level or below and before it detects that the level of said molten paste in said storage tank reaches a second level higher than said first level.

7. An apparatus as defined in claim 5, wherein said molten paste feed unit is provided with an on/off valve, which is opened or closed by a command from said timing controller, in the midst of a molten paste feed pipe which connects said storage tank and said gun head.